

ECE103
FALL 2020

General information

Instructors

Mario Marconi. (mario.marconi@colostate.edu)

Fernando Tomasel. (ftomasel@enr.colostate.edu) **ONLY for Recitations A questions**

Office: C103G- ENG

Phone : 970-491-8299- 970-491-0620

Cell: 970-481-4487

TA Carsten Dietvorst (dietvorstcj@gmail.com)

Brayan Trejo (brayantr@rams.colostate.edu)

Textbook: "Fundamentals of Electric Circuits" by A.K. Alexander and M.N.O. Sadiku.
Smart book version

Grading criteria

First exam: 15%

Second exam: 15%

Quizzes: 15%

Final: 25%

Homework 15%

Laboratory 15%

Extra credit reading assignments 5%

The system +/- will be used in this class

Quizzes dates

Quiz 1 (Chapter 1) Thursday SEPTEMBER 3

Quiz 2 (Chapter 2) Tuesday SEPTEMBER 15

Quiz 3 (Chapter 3) Tuesday SEPTEMBER 29

Quiz 4 (Chapter 4) Tuesday OCTOBER 13

Quiz 5 (Chapter 5) Tuesday NOVEMBER 3

Quiz 6 (Chapter 6) Tuesday NOVEMBER 10

Quiz 7 (Chapter 7) Tuesday DECEMBER 1

Exams dates:

First Midterm Exam Thursday OCTOBER 15

Second Midterm Exam Thursday DECEMBER 3

Final Tuesday DECEMBER 15. 9:40-11:40 AM

Grading scale:

95+	A+	75-79.99	B	40-54.99	D
90-94.99	A	70-74.99	B-	<40	F
85-89.99	A-	65-69.99	C+		
80-84.99	B+	55-64.99	C		

Homework Instructions.

All homeworks will be solved on line using Connect registration

- Homeworks will be assigned weekly. Homeworks must be completed in the McGraw Hill website (Connect). Any HW submitted after the deadline will have a penalty. The deadline will be indicated in each homework
- There will be reading assignments that will count as 5% extra credit towards the final grade. You will find the reading assignments in the Connect section. The extra credit points will be awarded ONLY if the assignments are completed before the deadline
- Buy the access code for the smart book (CONNECT) from the CSU bookstore. It provides extended access time as compared with the code acquired in the McGraw Hill website. You might have to use your CONNECT access in ECE202
- Two attempts are allowed to complete each homework
- If used, in the second attempt you will be able to review the problems you solved incorrectly in your first attempt
- There is no score reduction for using the second attempt. The program will keep the best score
- Solutions to the problems will be available 12 hours after the deadline
- There is a 10% penalty for each hour late after the deadline

VERY IMPORTANT: *You are responsible to submit the homework. Notice that the program DOES NOT submit automatically (you must do it manually). If you forget to submit the homework on time there is no possibility to remove the tardiness penalty*

Laboratory instructions.

- To pass the class you must complete all laboratory experiments and present all your laboratory reports. To complete the laboratory activities you have a personal kit with all the necessary elements (DIGILENT analog device). Work at your own pace at home to complete all the labs.
- For the lab activity you will use the DIGILENT package. You can complete the lab activity at home and turn in the report with the TA by email (or any other method previously arranged with the TA). The TA will be available to help you with the lab activity during labs consultation sections that will be held as virtual meetings using Microsoft Teams. Please read the “Announcements” in CANVAS for the details

Lectures:

- All lectures will be delivered on line, synchronously using a virtual meeting platform. You will receive precise instructions and the corresponding invitation to join the lecture before the beginning of classes.
- The time allocated for the lectures (TR 10:00-10:50AM) will be used by the TAs for consulting.
- Additionally all the lecture notes will be posted in CANVAS, in pdf format, in the “Modules” folder.
- If necessary, additional pre-recorded videos will be posted in the same folder.
- Lecture notes and videos will be posted with sufficient time for you to solve the homeworks and prepare for the exams.

IMPORTANT Miscellaneous Information

- A passing grade requires that the average for all the exams (the 2 midterms and the final) be a passing grade, this is more than 55%
- Quiz tests: After completion of each chapter, there will be a quiz. The quiz will be solved on line in CANVAS. The date and time will be announced with the sufficient anticipation. The quiz will be simultaneous for all students. The time posted for the quiz refers to Mountain Standard Time.

HELP

Recitations (non mandatory):

- There will be weekly recitation meetings (Wednesday and Fridays 5:00 to 6:00).
- We will offer two recitation meetings: **Recitation A** and **Recitation B** . You can participate in either of the two recitations, or in both. No limitations.
- All recitation classes will be offered via a virtual meeting platform (Zoom or Microsoft Teams)
- Recitation A meetings will be offered by Prof. Fernando Tomasel, Wednesdays from 5:00 to 6:00. The details of his recitation classes will be explained in “Announcements”
- Recitations B will be covered by Prof. Marconi, Fridays from 5:00 to 6:00. These recitations are intended to solve extra problems, similar to the problems in the homeworks
- Office hours will also be held as virtual meetings. For office hours consulting please send an e-mail to professor Marconi (Mario.marconi@colostate.edu) to arrange a virtual conference. We will use mainly the video conference platform Zoom. Also you have available Microsoft Teams that can be used (depending on the circumstances)
- When help is needed please use the following procedure:
 - a. If the questions can be answered by emails, that will be the first option. Emails will be answered within 24 hours max.
 - b. If you need more detailed help, request a videoconference (send an email to the professor) and you will receive an email with the invitation to join a virtual meeting

- Office hours have an open agenda. I will answer your requests on demand

Video conference platforms information

- a- Microsoft Teams [<https://teams.microsoft.com/downloads>] and
- b- Zoom [<https://zoom.us/download>].

Both are free softwares, please download them in your devices

VERY IMPORTANT!

Read the announcements in CANVAS. All news, deadlines, dates and times of the exams, etc. will be posted in Announcements and in this Syllabus. If you cannot find the answer to your question, please send us (professor Marconi or TAs) an email.

Topics

Basic concepts

- System of units
- Charge, current and voltage
- Power and energy
- Circuit elements

Basic Laws

- Ohm's Law
- Kirchhoff's Law
- Series and parallel resistors
- Wye-Delta transformations

Methods of Analysis

- Nodal analysis
- Mesh analysis

Circuit Theorems

- Linearity
- Superposition
- Thevenin's theorem
- Norton's theorem

Operational Amplifiers

- Introduction
- Ideal Op Amp

Capacitors and Inductors

- Introductory ideas
- Series and parallel capacitors
- Series and parallel inductors

First-Order Circuits

- Source free RL and RC circuits
- Step response for RC and RL circuits
- First order OpAmp circuits

Second-Order Circuits

- Source free RLC circuit (series and parallel)

Step response for a RLC circuit (series and parallel)